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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,737	06/13/2001	Ferencz S. Denes	032026:0538	4954
23524	7590	12/20/2005	EXAMINER	
FOLEY & LARDNER LLP 150 EAST GILMAN STREET P.O. BOX 1497 MADISON, WI 53701-1497			MAYEKAR, KISHOR	
			ART UNIT	PAPER NUMBER
			1753	

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/880,737

**Applicant(s)**

DENES ET AL.

**Examiner**

**Kishor Mayekar**

## Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 39-52 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 and 39-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1, 5, 6 and 8-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkowitz et al. (US 4,416,751) in view of Denes et al. (US 5,534,232) and Mason (5,660,465). Berkowitz as applied in the last Office action further discloses in col. 5, 26-29 that "[T]he gap between the two electrodes was automatically adjusted to insure optimum discharge conditions, i.e. it was controlled to keep it just at the point that it was discharging" and in col. 2, lines 44-52 that the electrodes are eroded by the electric discharge to produce metallic particles. As such, Berkowitz contemplates that the electric discharge produces between electrodes' gap eroding the electrodes forming metallic particles. The differences between Berkowitz and the above claims are the provision of multiple pins and a ceramic pin holder on the end piece of the first electrode in which multiple pins are mounted. Denes shows in a process for reactions in dense-medium plasmas that

the rotation of an upper electrode aids in recirculating and mixing the dense medium (col. 10, lines 3-48). Mason shows in a device for mixing fluids the use of multiple pins on an impeller (Fig. 2). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Smith in view of either Berkowitz or Denes as shown by Mason because this would result in further enhancing the mixing action in the gap between the electrodes.

As to the provision of the ceramic holder, the motivation to make a specific structure is always related to the properties or uses one skilled in the art would expect the structure to have, *In re Newell* 13 USPQ 2d 1248, *Fromson v. Advance Offset Plate* 225 USPQ 26; *In re Gyurik* 201 USPQ 552.

3. Claims 1-23 and 39-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 5,061,354) in view of either Berkowitz '751 or Denes '232 and Mason '465. Smith in view of either Berkowitz or Denes is applied in the last Office action. Berkowitz further shows in col. 5, 26-29 that "[T]he gap between the two electrodes was automatically adjusted to insure optimum discharge conditions, i.e. it was controlled to keep it just at the point that it was

discharging" and in col. 2, lines 44-52 that the electrodes are eroded by the electric discharge to produce metallic particles. As such, Berkowitz contemplates that the electric discharge produces between electrodes' gap eroding the electrodes forming metallic particles. Denes also further shows in col. 10, lines 3-26 the inducing of a mixing in the gap between the electrodes due to the rotating of the upper electrode and in col. 10, lines 37-45 that upon imposing an electric potential between the lower electrode and the rotating upper electrodes the electric discharges are initiated in different location of the gap between the electrodes. The further differences between Smith in view of either Berkowitz or Denes are the provision of multiple pins and a ceramic pin holder on the end piece of the first electrode in which multiple pins are mounted. Mason shows in a device for mixing fluids the use of multiple pins on an impeller (Fig. 2). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Smith in view of either Berkowitz or Denes as shown by Mason because this would result in further enhancing the mixing action in the gap between the electrodes.

As to the provision of the ceramic holder, the motivation to make a specific structure is always related to the properties or uses one skilled in the art would

expect the structure to have, *In re Newell* 13 USPQ 2d 1248, *Fromson v. Advance Offset Plate* 225 USPQ 26; *In re Gyurik* 201 USPQ 552.

4. Claims 1-23 and 39-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Savage et al. (US 4,731,515) in view of either Berkowitz '751 or Denes '232 and Mason '465. Savage in view of either Berkowitz or Denes is applied in the last Office action. Berkowitz further shows in col. 5, 26-29 that "[T]he gap between the two electrodes was automatically adjusted to insure optimum discharge conditions, i.e. it was controlled to keep it just at the point that it was discharging" and in col. 2, lines 44-52 that the electrodes are eroded by the electric discharge to produce metallic particles. As such, Berkowitz contemplates that the electric discharge produces between electrodes' gap eroding the electrodes forming metallic particles. Denes also further shows in col. 10, lines 3-26 the inducing of a mixing in the gap between the electrodes due to the rotating of the upper electrode and in col. 10, lines 37-45 that upon imposing an electric potential between the lower electrode and the rotating upper electrodes the electric discharges are initiated in different location of the gap between the electrodes. The further differences between Smith in view of either Berkowitz or

Denes are the provision of multiple pins and a ceramic pin holder on the end piece of the first electrode in which multiple pins are mounted. Mason shows in a device for mixing fluids the use of multiple pins on an impeller (Fig. 2). The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Smith in view of either Berkowitz or Denes as shown by Mason because this would result in further enhancing the mixing action in the gap between the electrodes.

As to the provision of the ceramic holder, the motivation to make a specific structure is always related to the properties or uses one skilled in the art would expect the structure to have, *In re Newell* 13 USPQ 2d 1248, *Fromson v. Advance Offset Plate* 225 USPQ 26; *In re Gyurik* 201 USPQ 552.

### ***Response to Arguments***

5. Applicant's arguments filed October 7, 2005 have been fully considered but they are not persuasive.

In response to applicant's argument that none of the references teaches or suggests the recited ceramic pin holder and the recited case law relied upon by the examiner "the motivation to make a specific structure ..." is inapposite, the fact

that the present invention discloses the use of the recited ceramic holder so it can be interchanged (last 3 lines in page 12 of the specification), so the interchangeable ceramic holder is disclosed to be used in holding the pins and as an interchangeable end piece of the upper electrode, the case law is apposite.

*Conclusion*

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

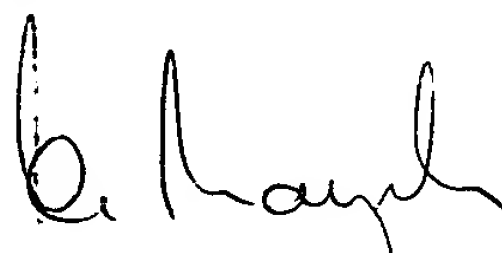
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.



7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kishor Mayekar whose telephone number is (571) 272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kishor Mayekar  
Primary Examiner  
Art Unit 1753